



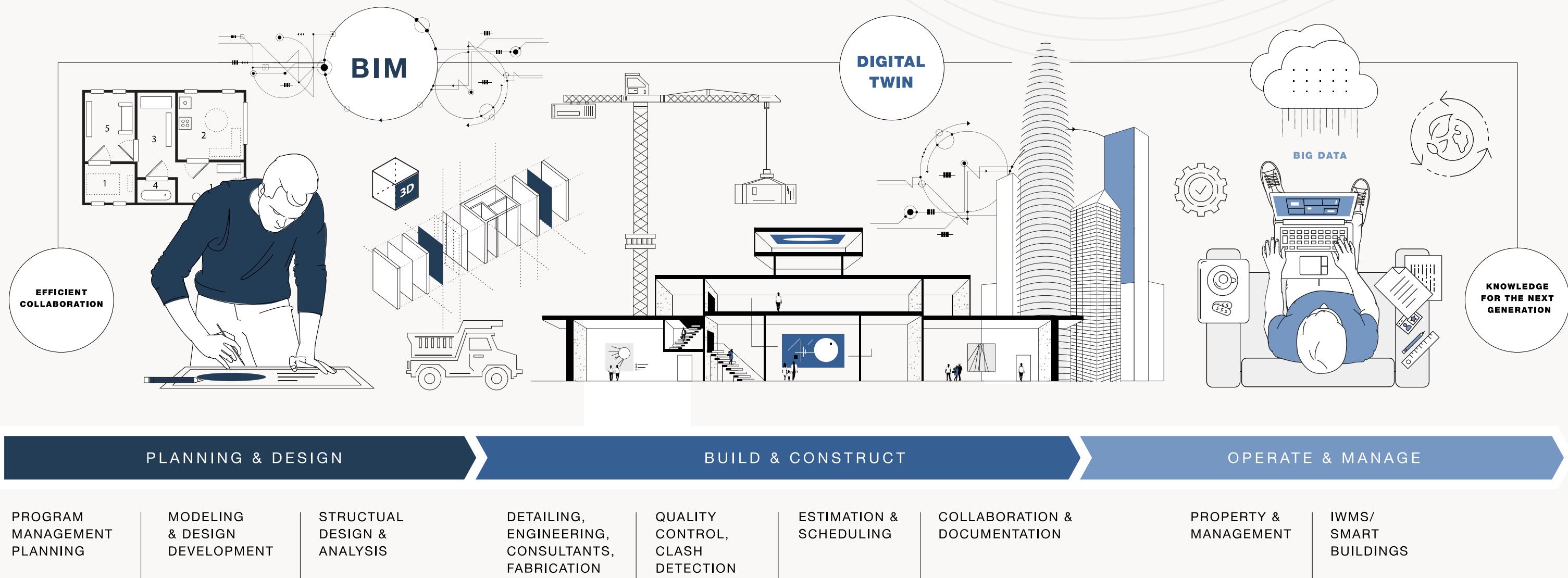
Reaching the Next Level of BIM

Open, Connected, and Cloud-Based

Eduardo Lazzarotto
CPO ALLPLAN (Nemetschek Group)



BIM



Why doesn't today's reality meet the vision?

Proprietary Formats

- Purpose built to work within an ecosystem
- Creates intentional data cliffs in a BIM workflow

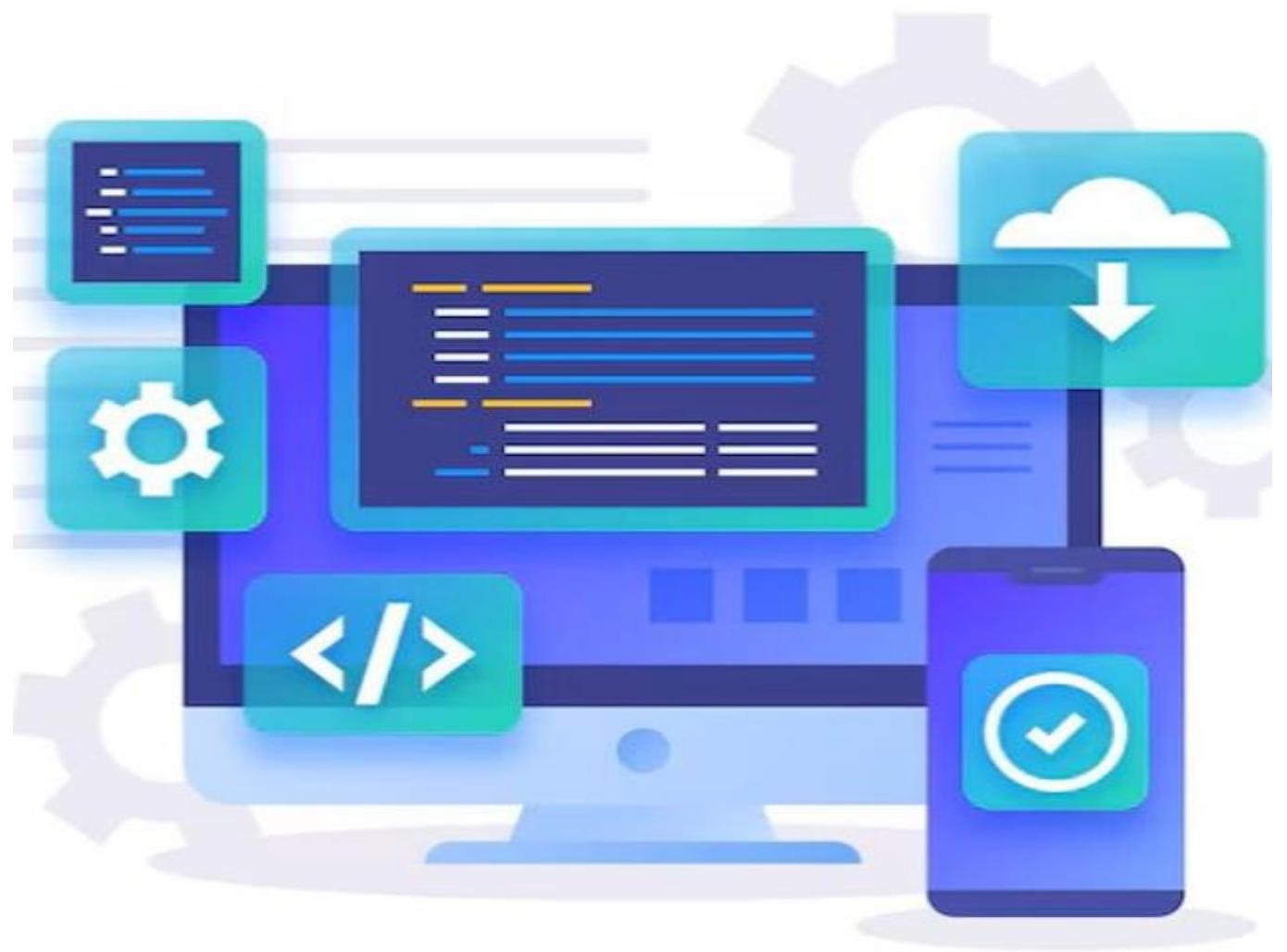
Limited Functionality

- Can lead to expensive customization
- Can hinder business expansion

Platform Dependence

- Right tool for the right job
- Risk of reliance on a single vendor
- Improve leverage with vendors

So how do we get to the next level?



BIMPLUS

Next level BIM

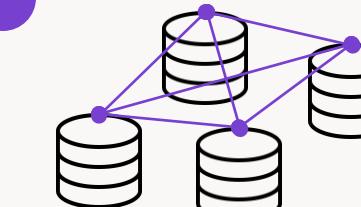
BIM “Level 5” Smart Digital Twin

dTwinTM
A NEMETSCHEK SOLUTION

BIM “Level 4” Managed BIM Ecosystem

 **BIMPLUS**
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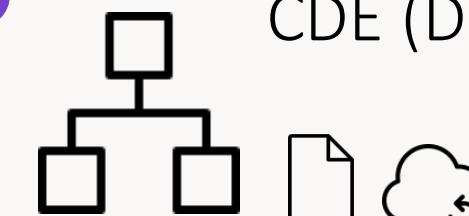
BIM “Level 3” Object Based Building DB



BIM Level 2 Federated Model

CDE (DIN Spec 91391)

BIM Level 1 Digital 2D



Classic CDE-System

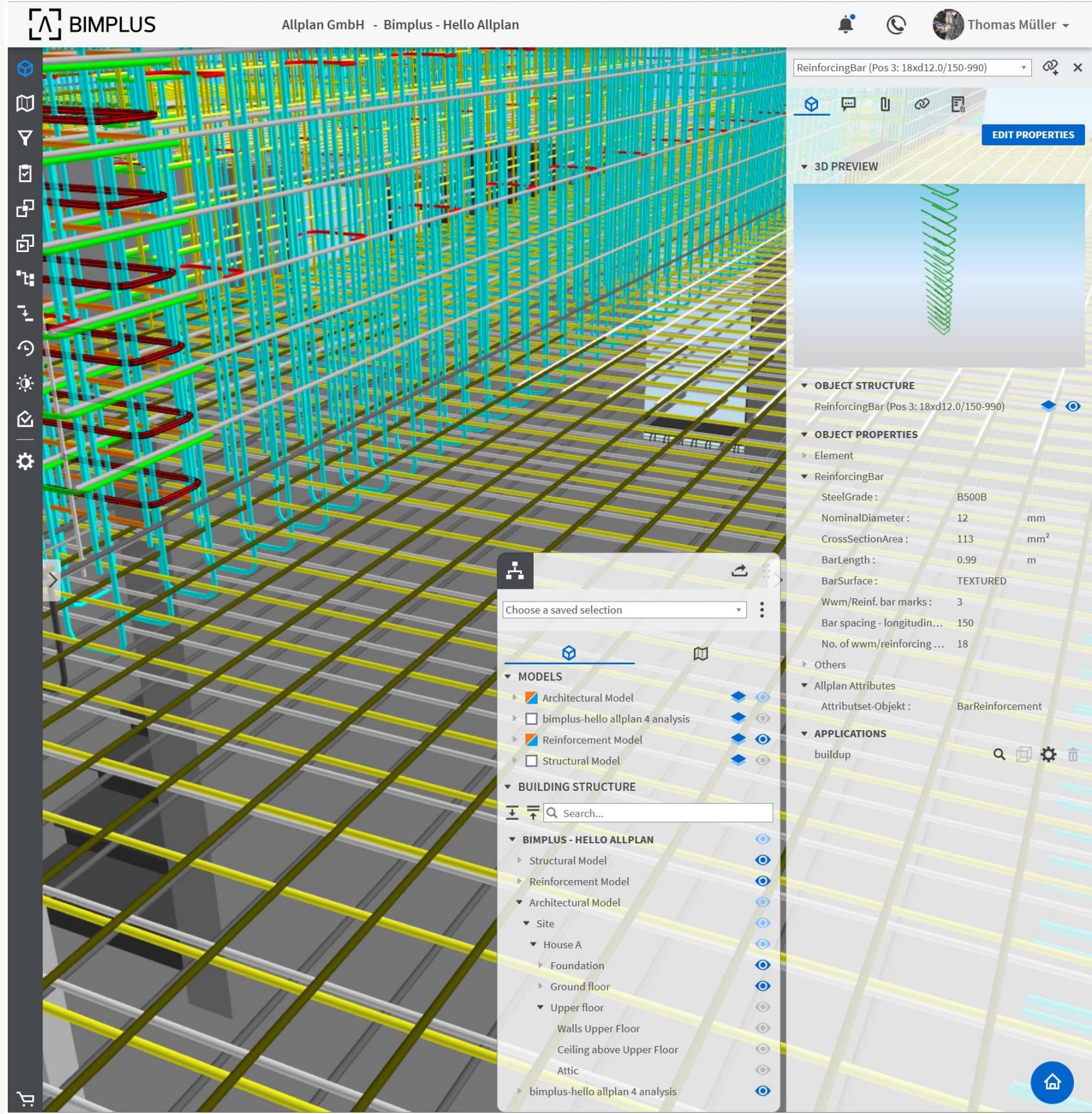
Interoperability

 **openCDE**

Data continuity

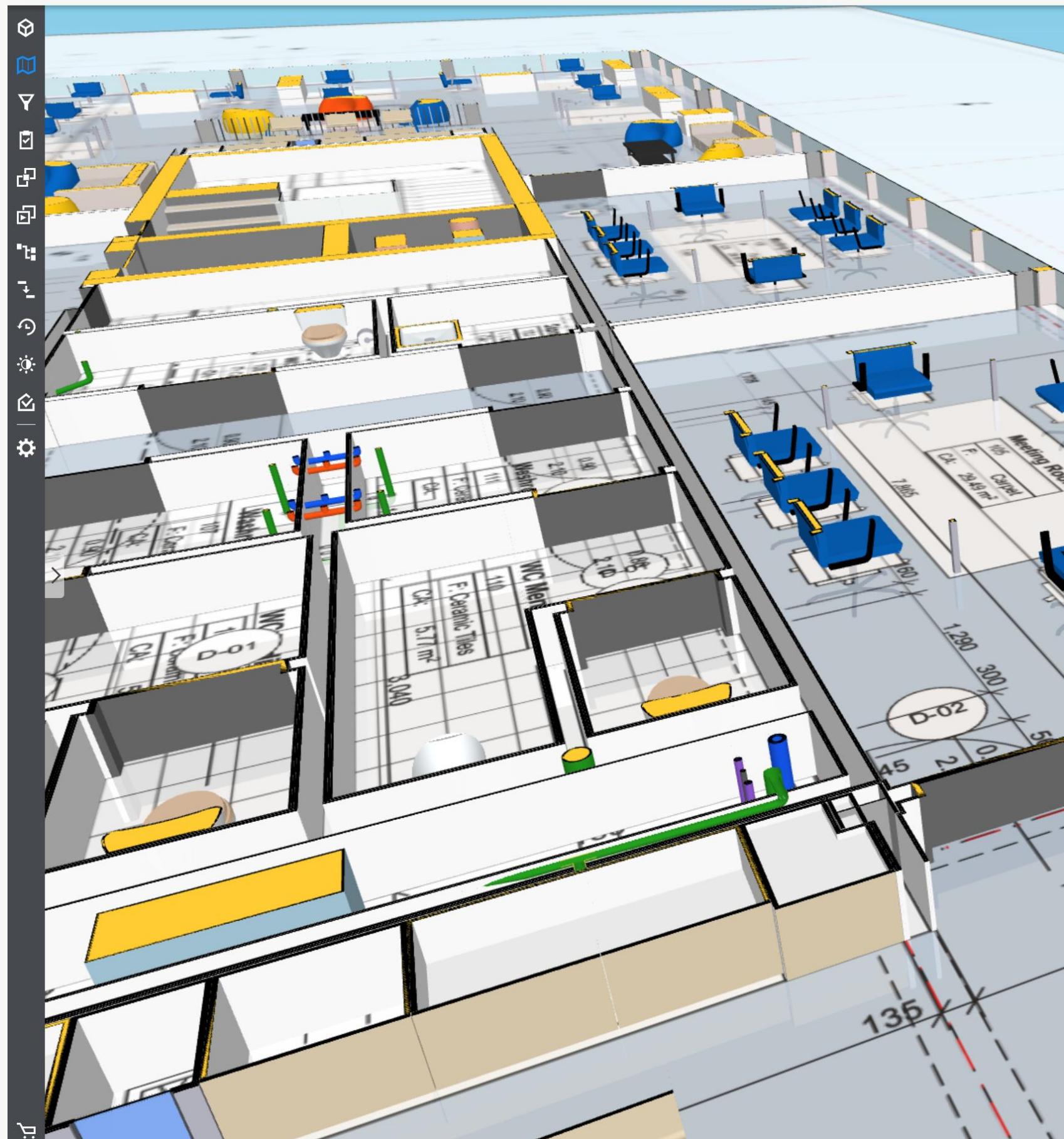
Next Level Bim requires:

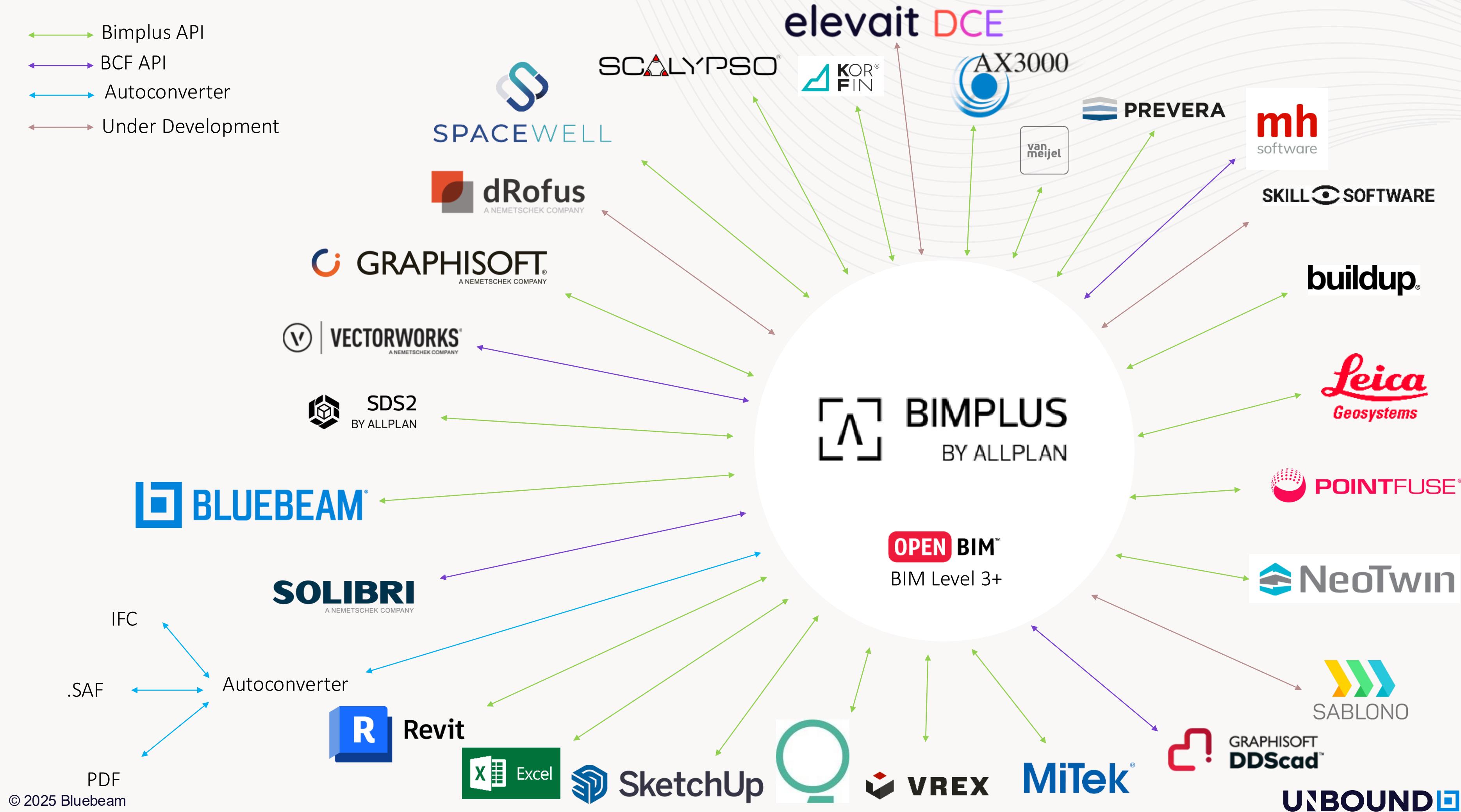
- **Relational Database Foundation:** database-first platform – not just a file / model viewer.
- **Federated Models:** platform in which sub-models from any source and any trade can be combined.
- **Data Neutralization:** platform that organizes data in a way that leaves the BIM platform independent.
- **Advanced Workflow Support:** revision tracking, issue management, integration via APIs.
- **Interoperability without intentional Data Silos:** OpenBIM connection with architectural and engineering authoring platforms to the downstream detailing tools.



BIMPLUS Transforms Collaboration

- **Unified Data:** Import IFC objects from any tool for seamless collaboration of measurements, issues, revisions and more.
- **Flexible Management:** Merge multiple IFC models and export as one.
- **Customizable Model Structure:** Add tailored properties to support specific workflows.
- **Integration Ecosystem:** Integrations with ALLPLAN, Archicad, Bluebeam, Revit, SDS2, Solibri and more.
- **Live Updates:** Cloud-hosted system instantly shares updated IFC properties for a dynamic, living model.
- **Convert IFCs:** Autoconverter functionality can convert a structural model to an analytical model creating neutral model data from any model authoring source.





OVERLAY & COMPARE PDFS WITH 3D MODEL

CONTROL VIEW OF FEDERATED MODELS

OBJECT STRUCTURE
all (IW 10b)

OBJECT PROPERTIES
producer Data
element

| | |
|----------------------|---|
| Name : | <input type="checkbox"/> <i>IW 10b</i> |
| Description : | <input type="checkbox"/> ... |
| Type : | <input type="checkbox"/> <i>Wall</i> |
| Model : | <input type="checkbox"/> <i>Allplan_Kindergarten...</i> |
| Layer : | <input type="checkbox"/> <i>Building</i> |
| Material : | <input type="checkbox"/> ... |
| Surface : | <input type="checkbox"/> <i>A:255 R:255 G:255 B:255</i> |
| Ifc ID : | <input type="checkbox"/> <i>3bsml5Wob25vwHXFL...</i> |
| IFC Object type : | <input type="checkbox"/> <i>IfcWall</i> |
| PredefinedType : | <input type="checkbox"/> ... |
| Owner : | <input type="checkbox"/> <i>MÜLLER Thomas</i> |
| Modified by User : | <input type="checkbox"/> <i>MÜLLER Thomas</i> |
| materialLayerSet | |
| allBaseQuantities | |
| Length : | <input type="checkbox"/> 7 |
| Width : | <input type="checkbox"/> 0.24 |
| Height : | <input type="checkbox"/> 2.7 |
| GrossFootprintArea : | <input type="checkbox"/> ... |
| NetFootprintArea : | <input type="checkbox"/> ... |
| GrossSideArea : | <input type="checkbox"/> ... |
| NetSideArea : | <input type="checkbox"/> 18.9 |
| GrossVolume : | <input type="checkbox"/> 4.54 |
| NetVolume : | <input type="checkbox"/> ... |
| GrossWeight : | <input type="checkbox"/> ... |
| NetWeight : | <input type="checkbox"/> ... |
| thers | |

FILTER
DEFINITION

FILTER DEFINITION

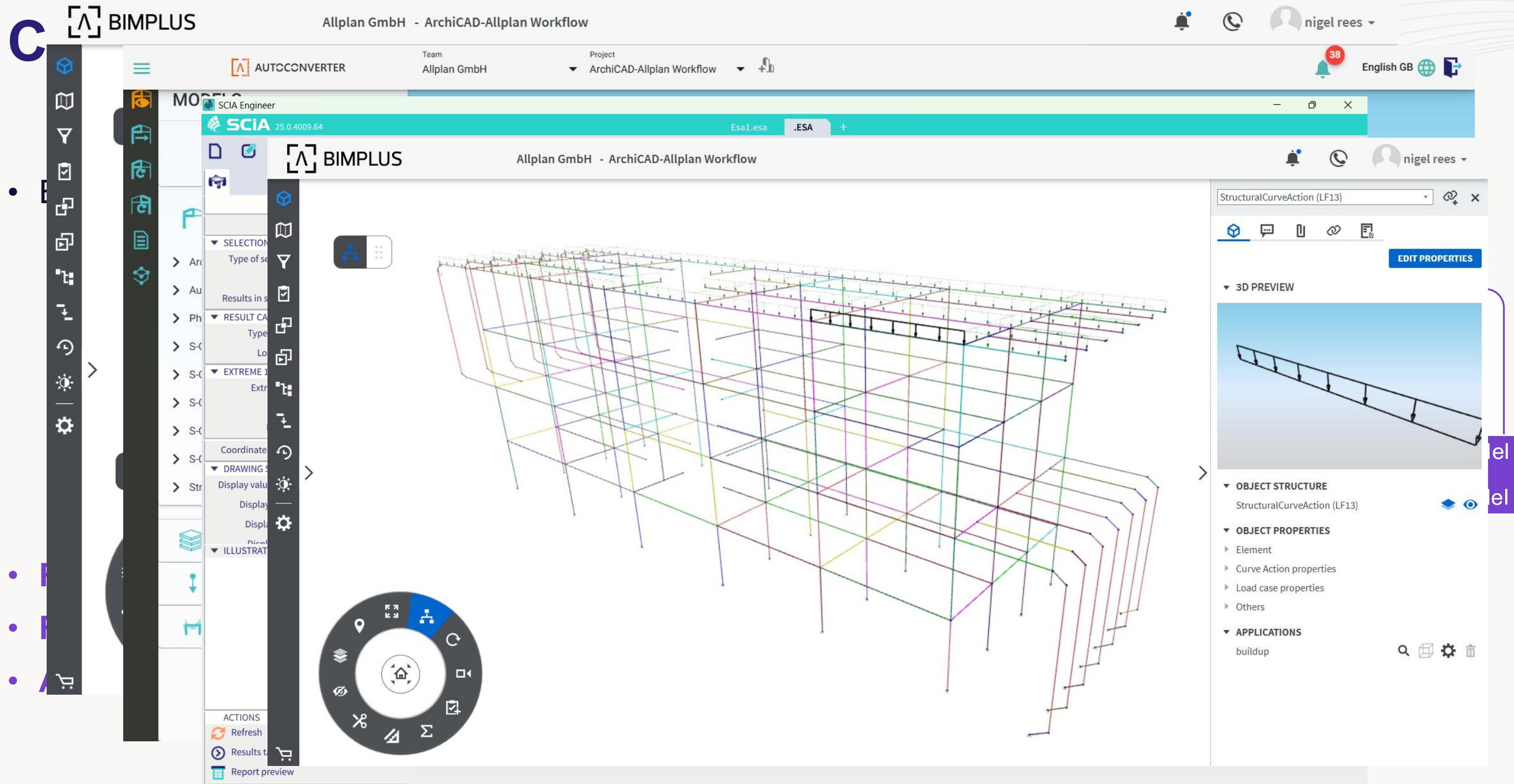
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QUANTITY TAKE OFF FROM 3D MODEL

UNBOUND

VIEW OBJECT PROPERTIES

| Name | Material | Net Volume | Gross Volume | Net Area | Gross Area |
|--------|----------|---------------------------|---------------------------|----------------------------|----------------------------|
| | | Net Volume | Gross Volume | Net Side Area | Gross Side Area |
| IW 10b | - | 3.05 m ³ | 4.54 m ³ | 18.90 m ² | 18.90 m ² |
| | | 3.05 m³ | 4.54 m³ | 18.90 m² | 18.90 m² |
| | | 3.05 m³ | 4.54 m³ | 18.90 m² | 18.90 m² |



2D Overlay

- Compare 3D object and 2D drawings between multiple models
- View 2D markups in a federated model.
- Measure clearances between multi-trade models
- Annotate views for individual use

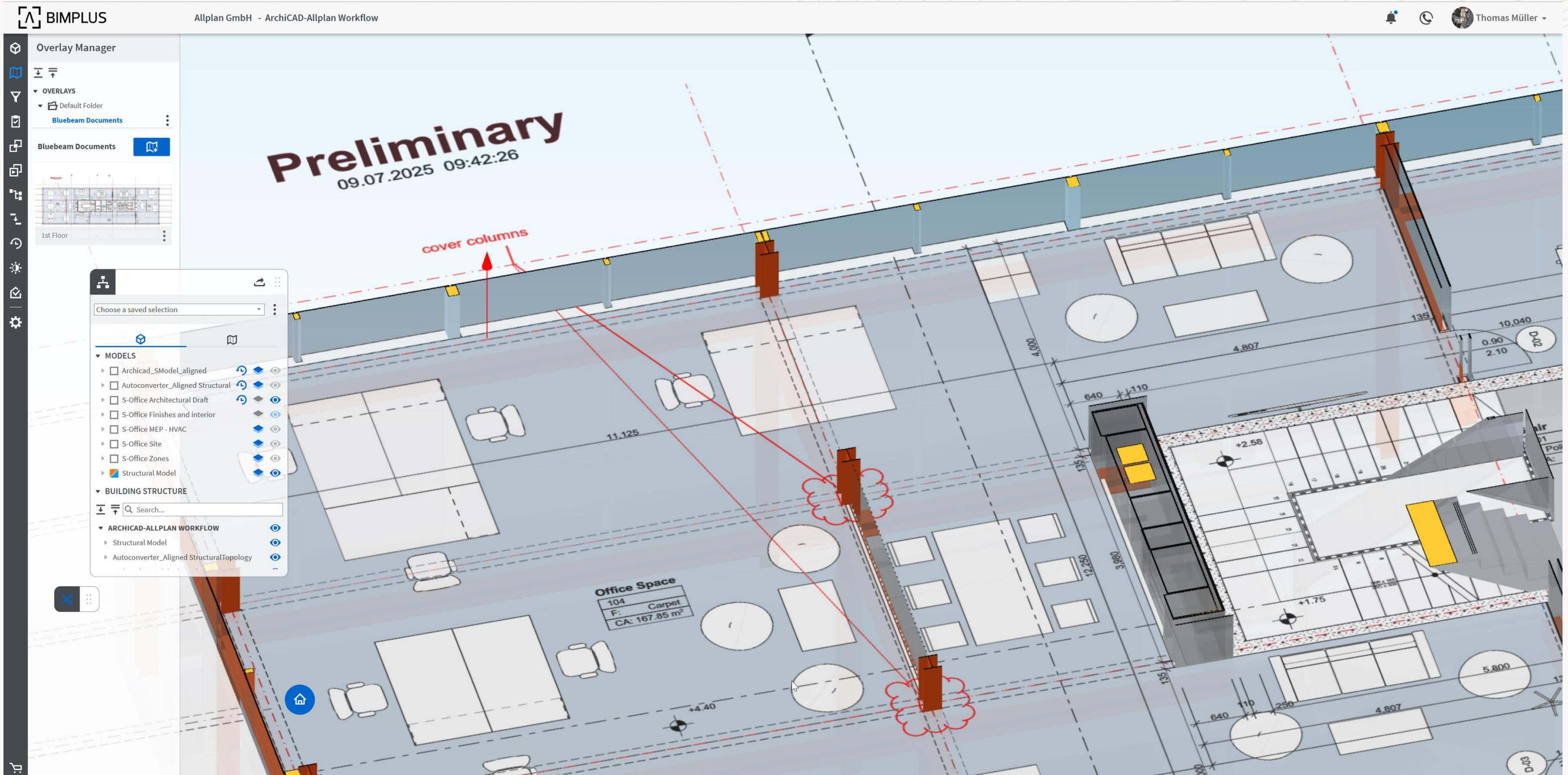


SDS2
BY ALLPLAN

ALLPLAN
A NEMETSCHKE COMPANY

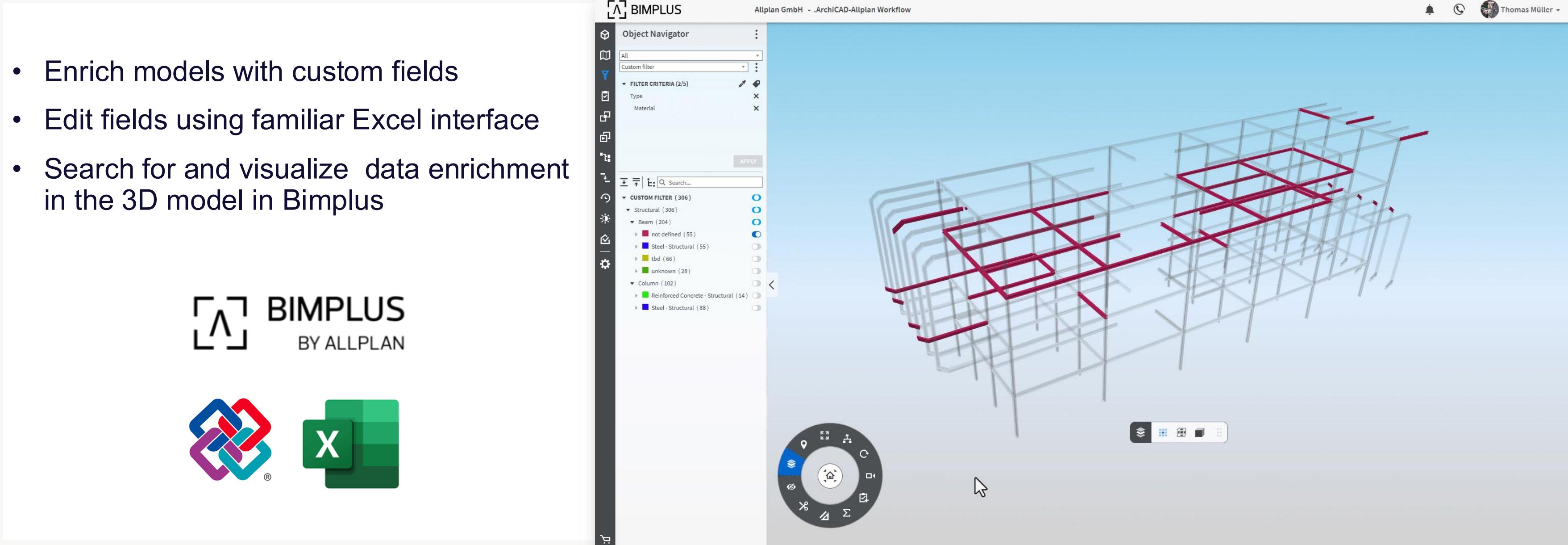


BLUEBEAM BIM



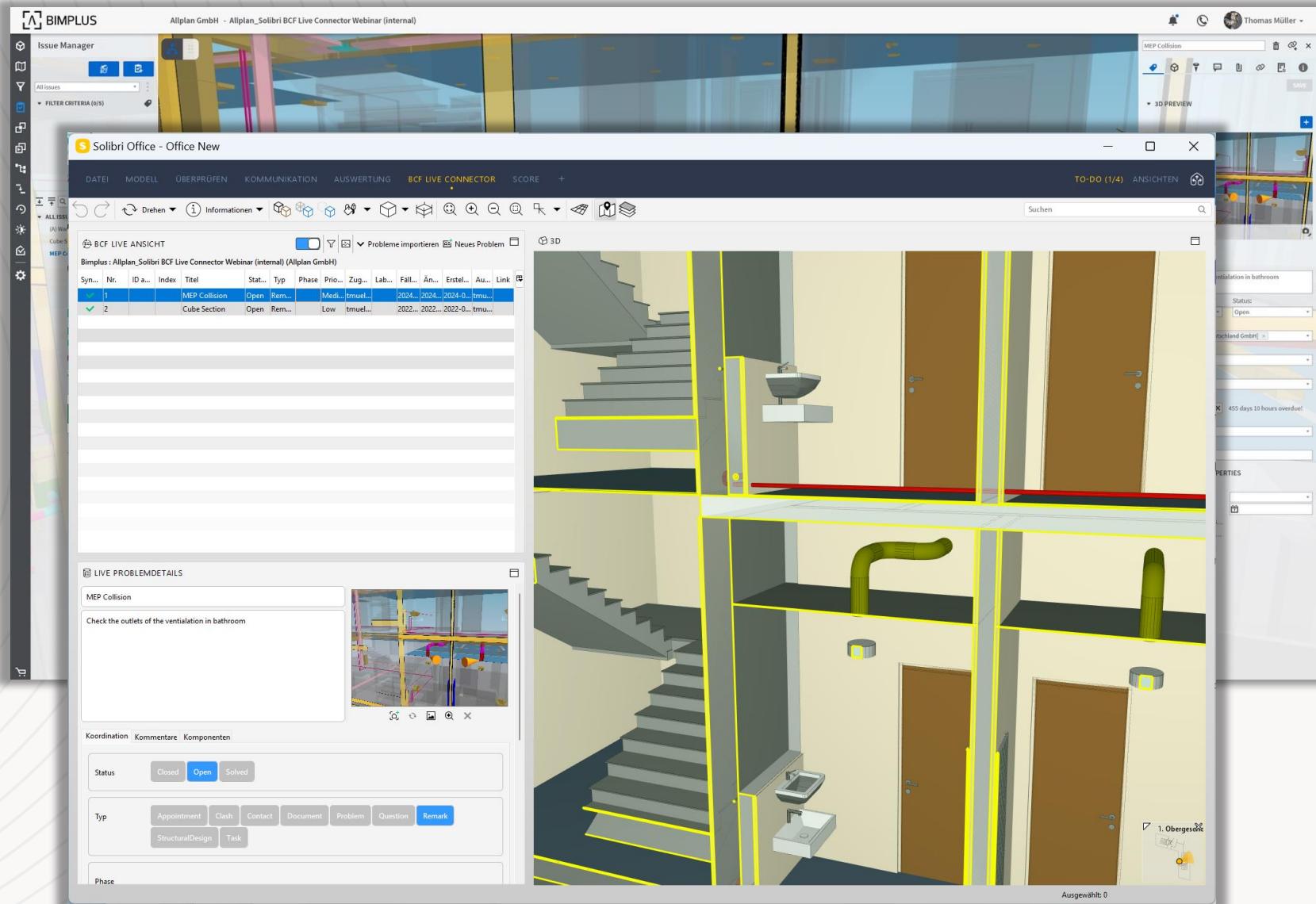
IFC data in excel

- Enrich models with custom fields
- Edit fields using familiar Excel interface
- Search for and visualize data enrichment in the 3D model in Bimplus



The screenshot shows the Bimplus software interface. On the left, there is a logo for 'BIMPLUS BY ALLPLAN' with a stylized 'A' icon. Below the logo are two icons: one for Bimplus and one for Microsoft Excel. The main window displays a 3D structural model of a building frame. Some elements of the model are highlighted in red, indicating selected or enriched data. On the left side of the interface, there is a 'Object Navigator' panel with a 'CUSTOM FILTER (306)' section expanded, showing categories like 'Structural (306)', 'Beam (204)', and 'Column (102)'. The 'Beam' category is further expanded to show sub-options like 'not defined (55)', 'Steel- Structural (55)', 'tbd (66)', and 'unknown (28)'. A circular navigation menu is located at the bottom left of the main workspace.

BLUEBEAM BIM



Streamline communication via the federated model using “Issues” and “Slides”

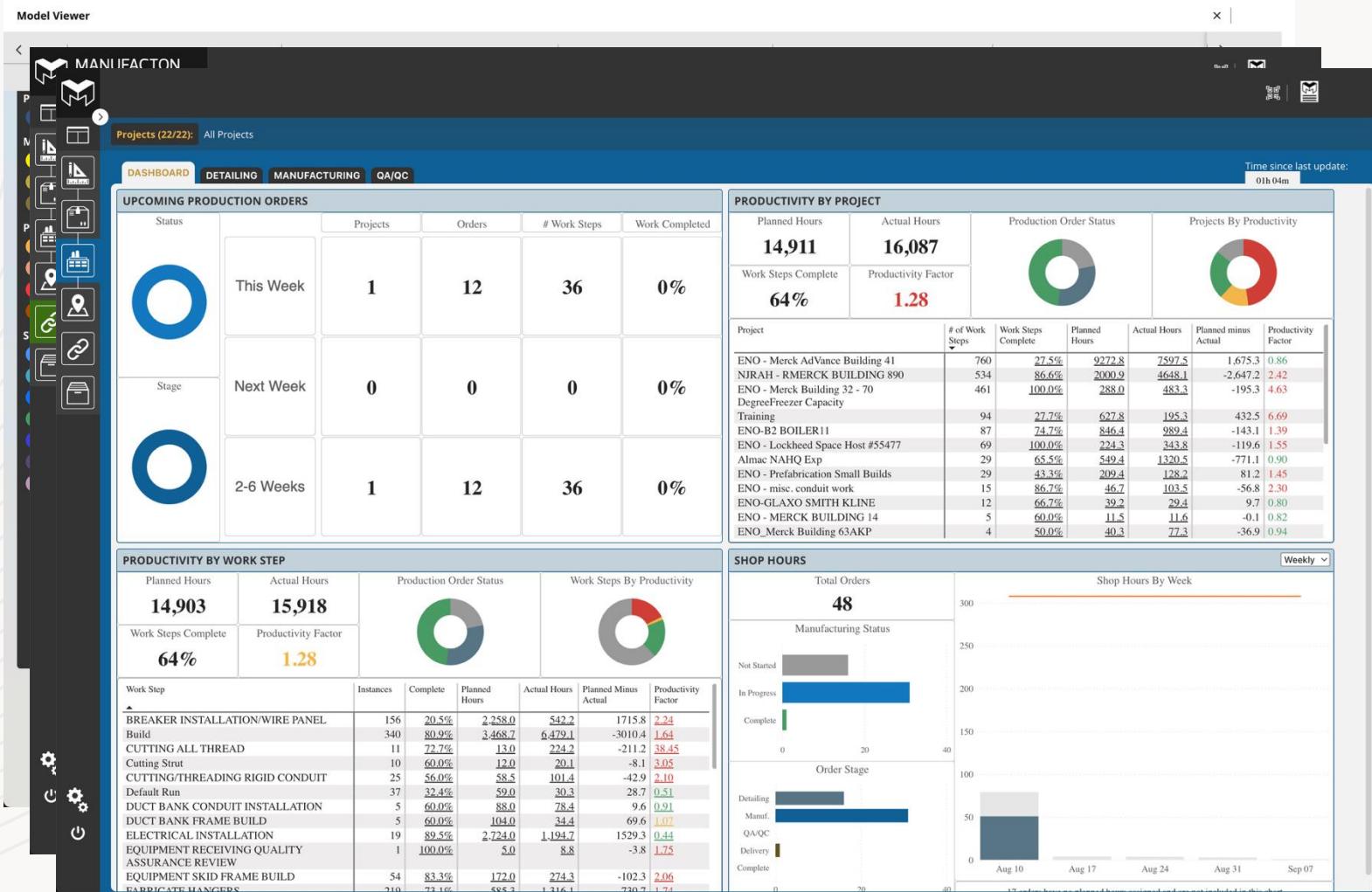
Open BIM workflows for Issue Management are powered by BCF and BCF API support

SOLIBRI
A NEMETSCHKE COMPANY

VECTORWORKS
A NEMETSCHKE COMPANY

Taking Control of Prefabrication

Cloud-based offsite construction and prefabrication management platform that provides real-time visibility across design, production, materials management, and logistics. Combining AI-driven production optimization with comprehensive project management capabilities to help construction firms achieve faster, better, and more sustainable building outcomes.

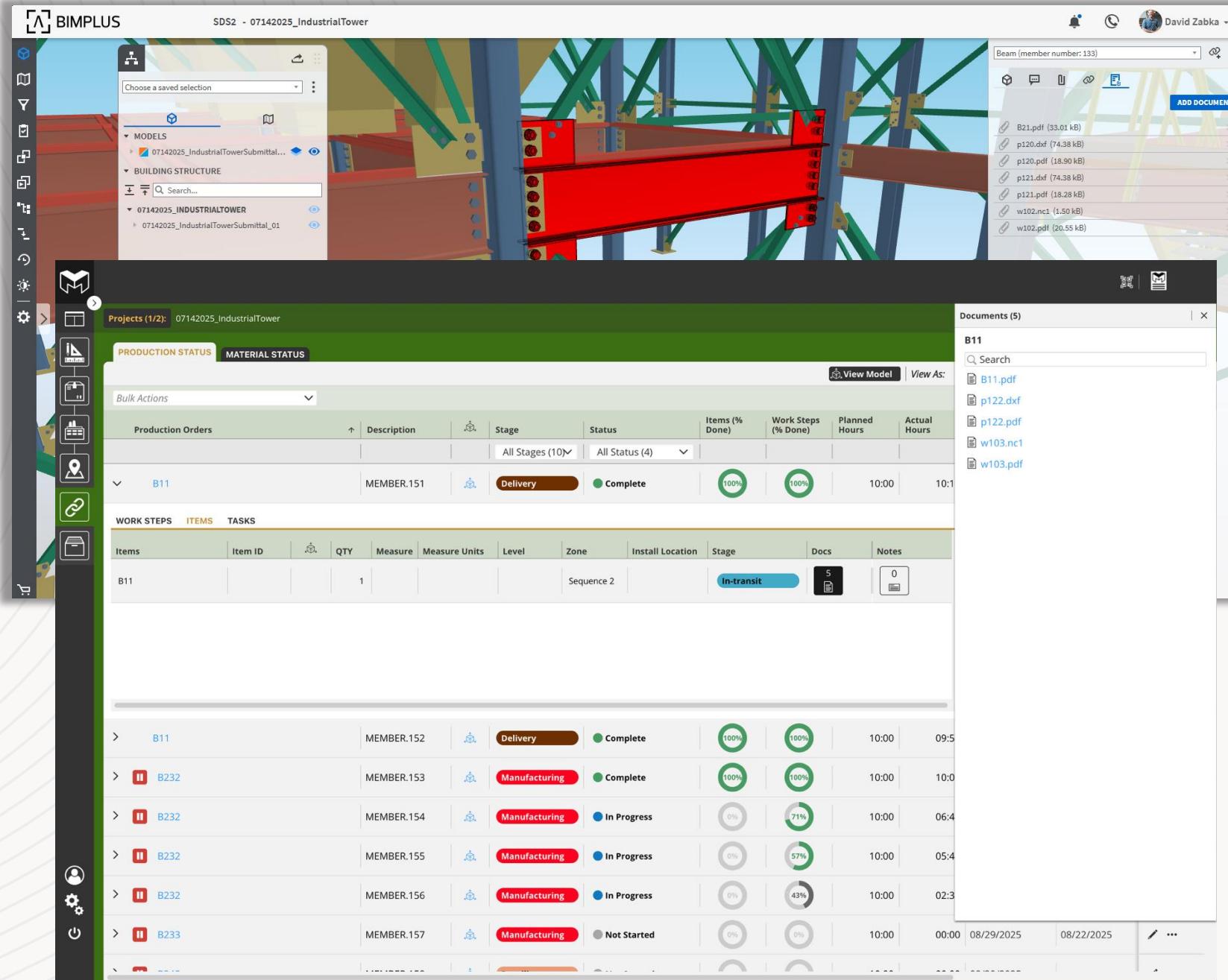


Take control of MEP prefabrication and Modular builds

Provide visibility into shop floor production, inventory, shipping, and site installation

Reduce risk with informed decision making utilizing historical data on future projects

Production Control for Steel and Precast



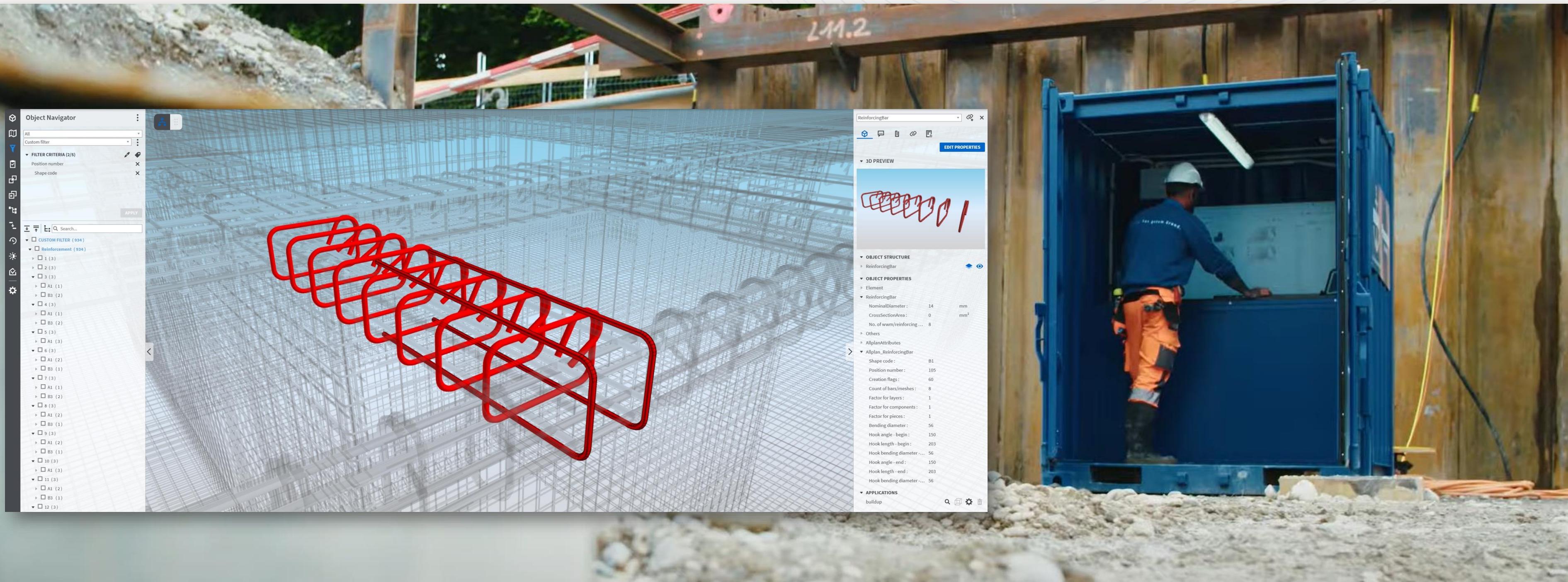
The screenshot displays the SDS2 software interface. At the top, a 3D model of an industrial tower is shown with a red beam highlighted. To the right of the model, a document viewer displays a list of fabrication files for a beam with member number 133. Below the 3D model, the main interface shows a table of production orders. The table includes columns for Description, Stage, Status, Items (% Done), Work Steps (% Done), Planned Hours, and Actual Hours. One row is expanded to show details for item B11, which is labeled 'Delivery' and 'Complete'. The bottom section of the interface shows a list of work steps for various members, including B11, B232, and B233, with their respective statuses and progress percentages.

Connect detailing data for Steel and Precast fabrication to MES

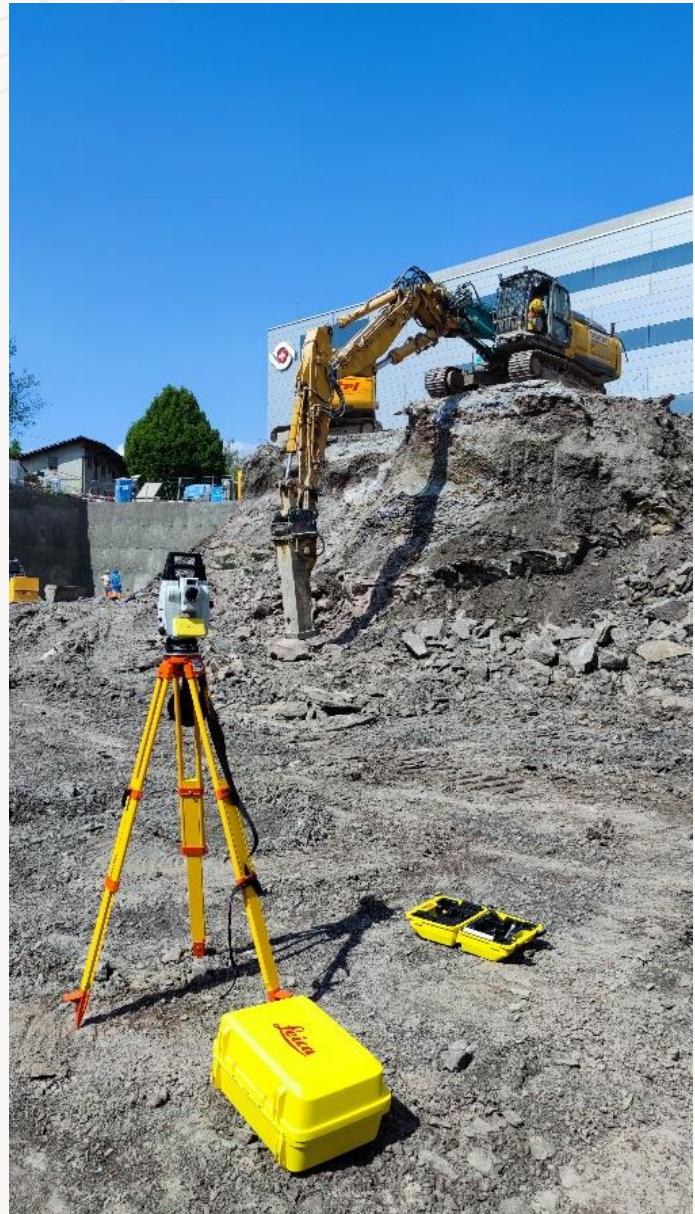
Improved decision making and visibility into production and installation for fabrication operations



Construction Site Visibility



Site Equipment Integration

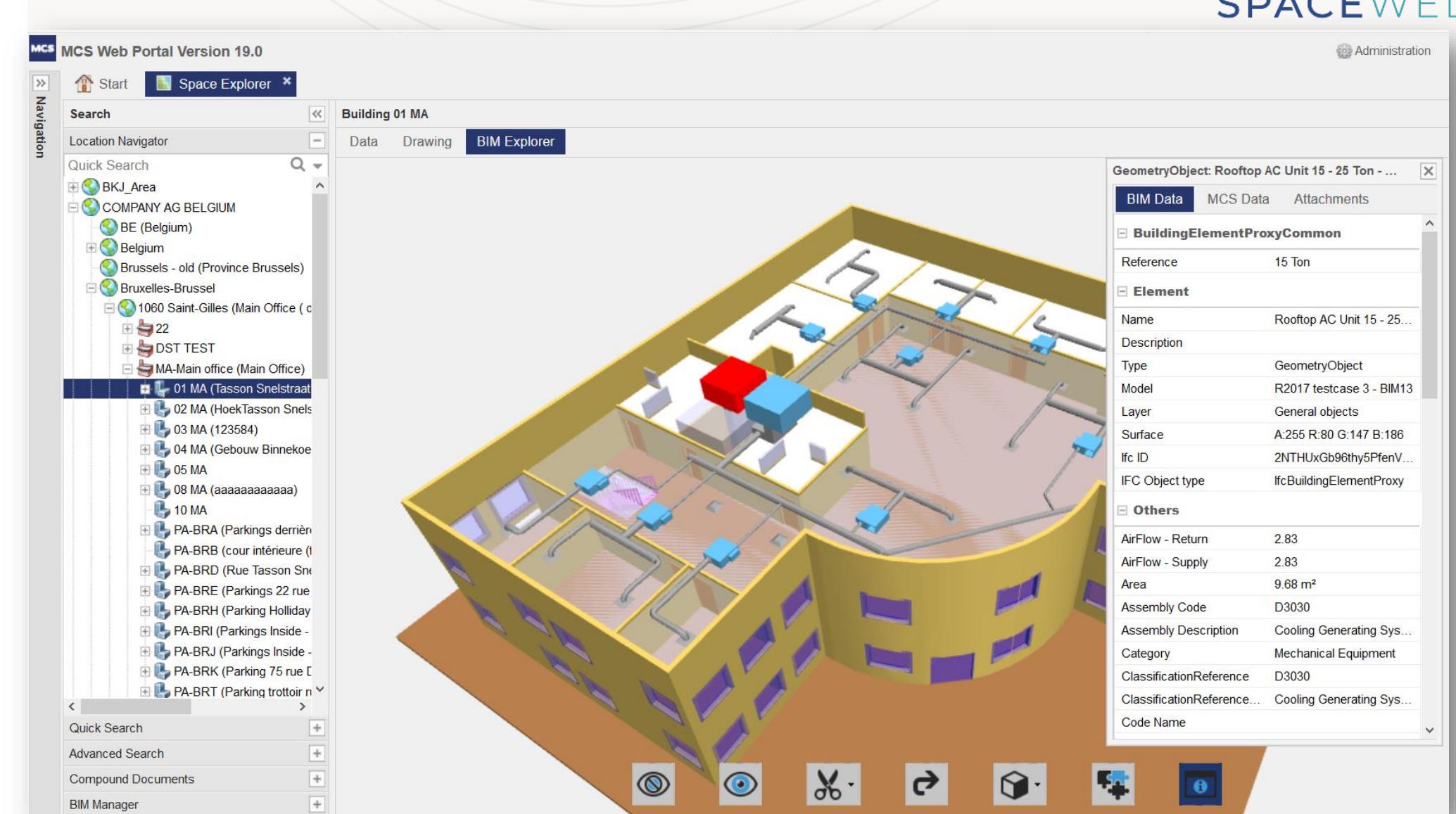
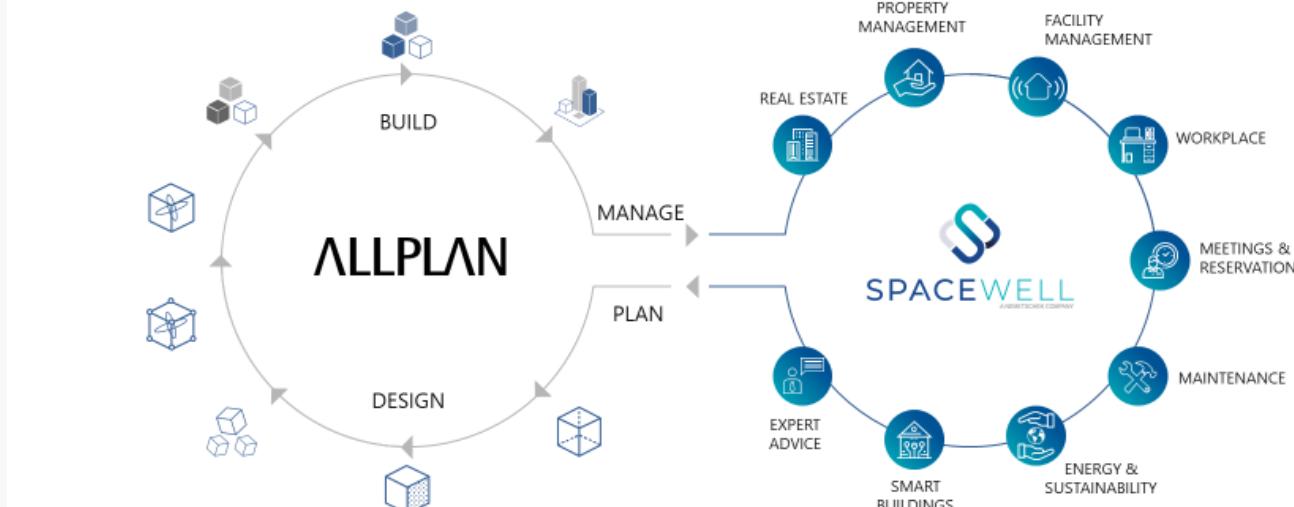


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Leica
Geosystems

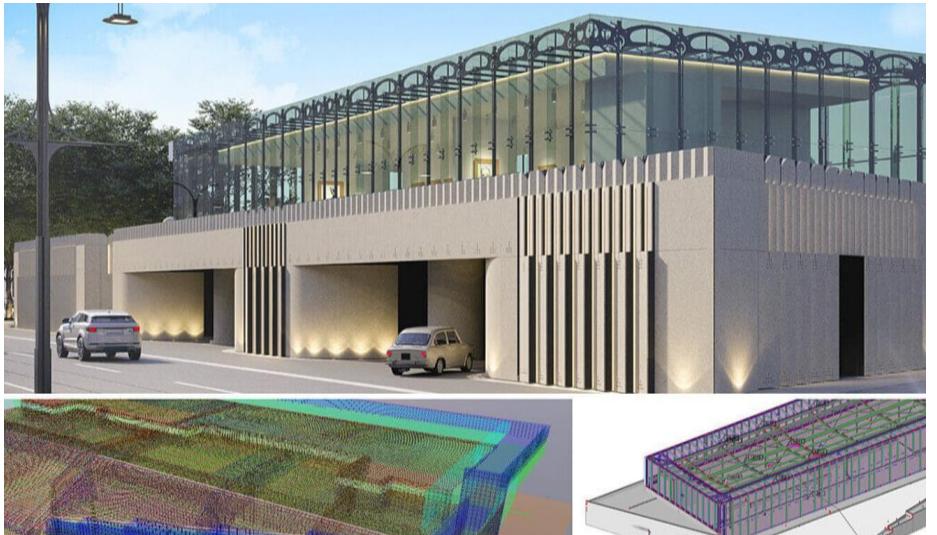
Facilities Management

- Link equipment, documentation and specifications to the BIM
- Keep Geometry up to date when building changes



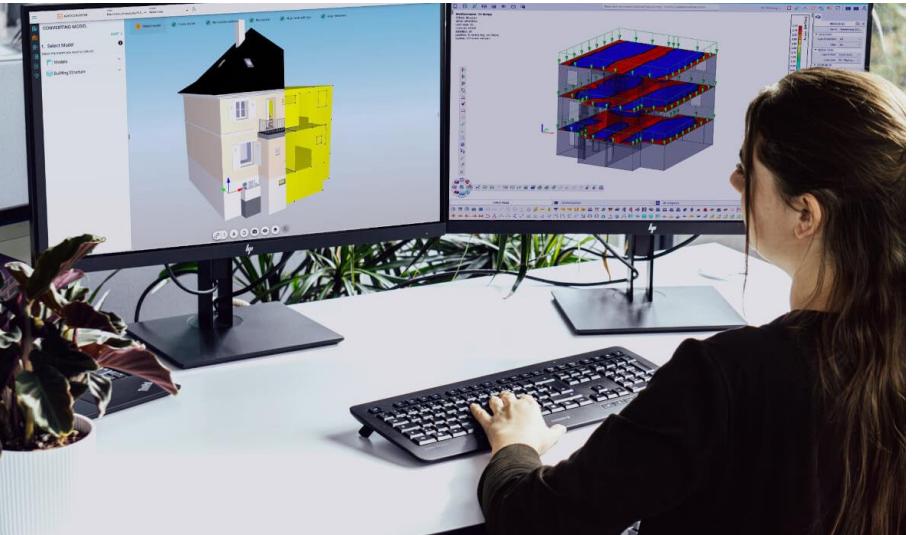
Break the barriers holding bim back

Open BIM Formats



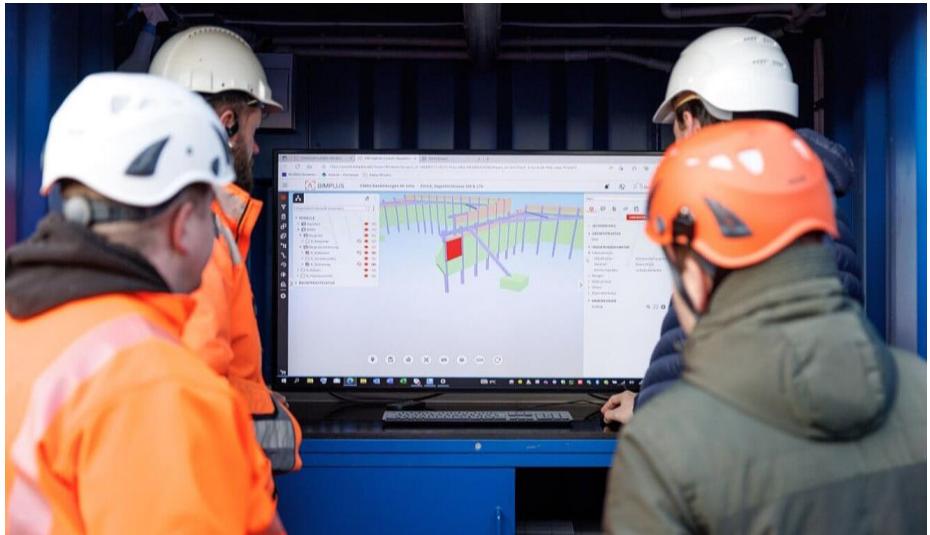
- Building Smart Alliance
- IFC, .SAF, .PDF

Integrated Functionality



- Cross-platform API integrations
- Autodesk – Nemetschek interoperability agreement

Explore Innovation

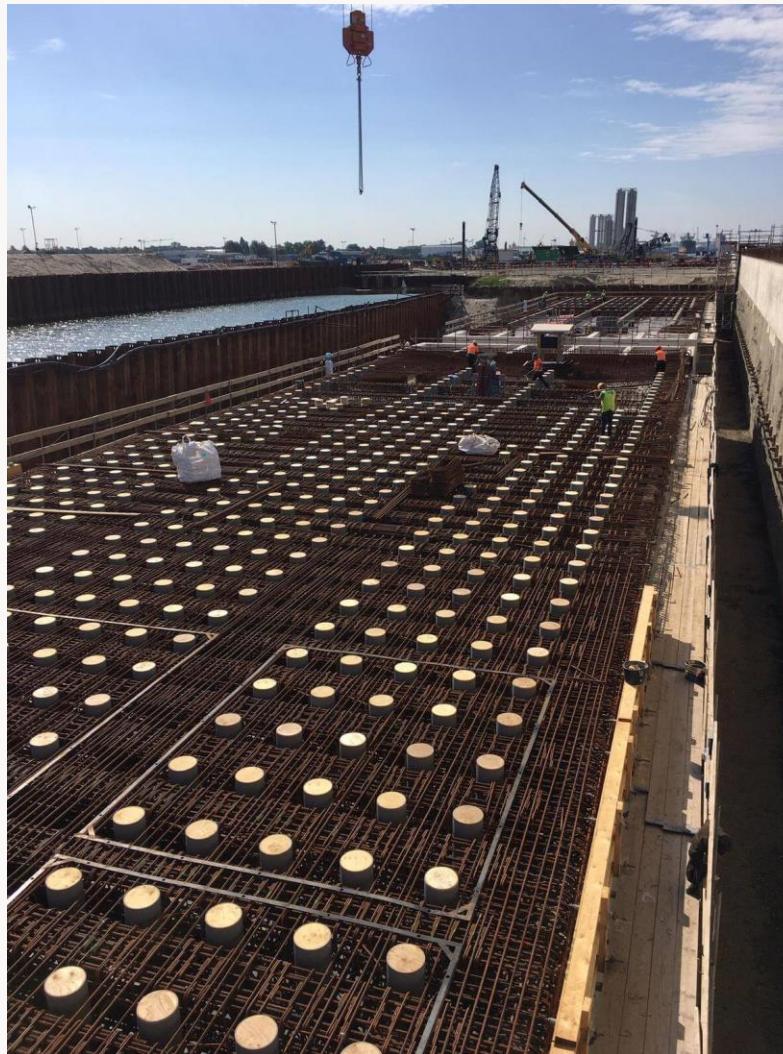
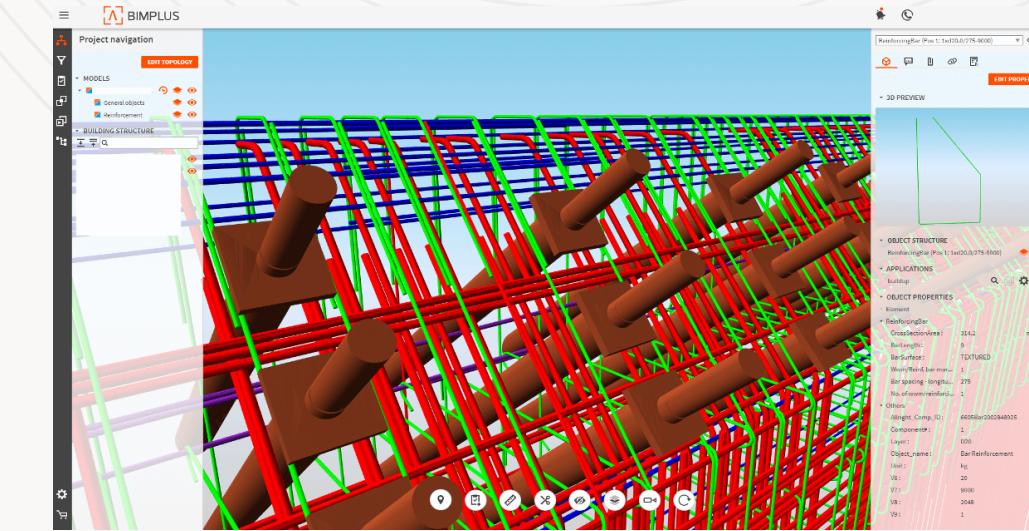


- Use the right tools for the right jobs
- De-risk reliance on a single vendor

BIMPLUS Helped Build the New Lock Terneuzen

One of the Biggest Locks in the World

The New Lock Terneuzen (Nieuwe Sluis) in Terneuzen, Netherlands accommodates larger vessels and help reduce congestion along this important shipping route. As one of the biggest locks in the world, the new lock is 427 meters long, 55 meters wide, and 16.4 meters deep.



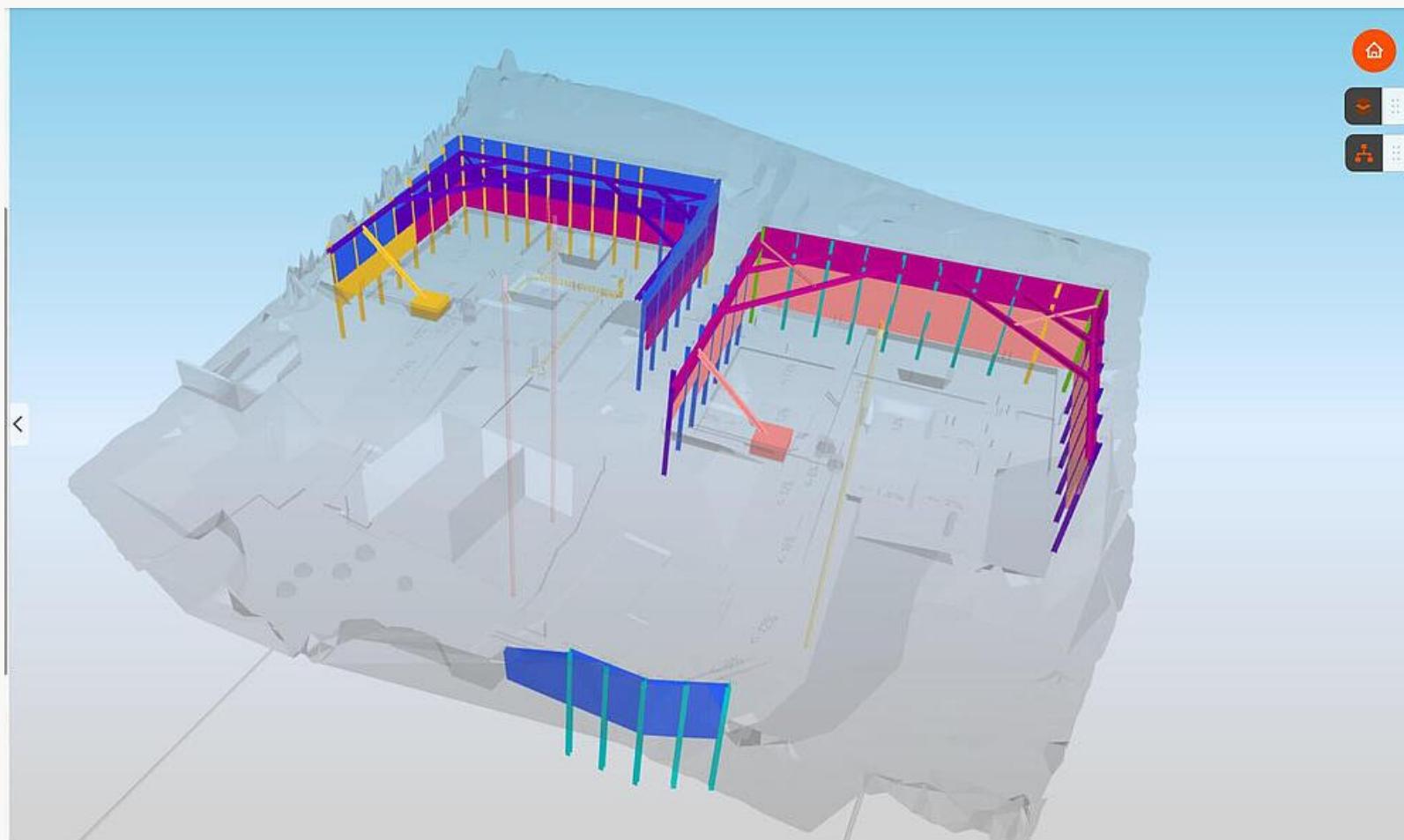
 **BIMPLUS**
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UNBOUND 

BIM2Field with KIBAG

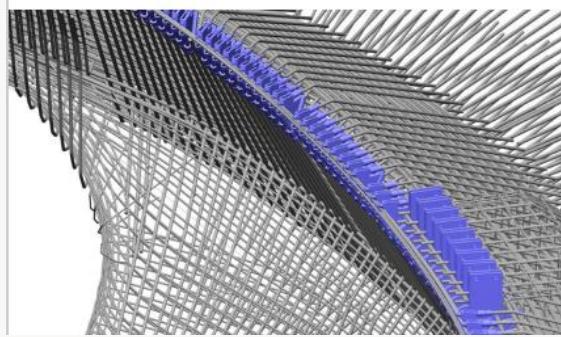
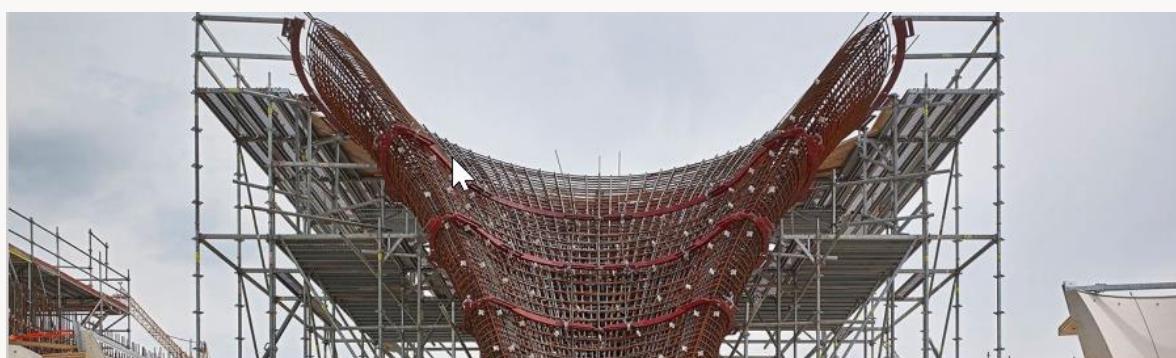
Hundred-year-old business chooses BIMPLUS

With around 60 locations and around 2,000 employees, the almost hundred-year-old family business KIBAG is one of the leading companies in the Swiss construction and building materials industry. KIBAG has gained numerous positive insights from a BIM pilot project with BIMPLUS in Zurich, in which work was (almost) **exclusively model-based** – also on construction site.



Stuttgart 21

Main Station Stuttgart



Germany's largest construction project is slowly approaching the finish line. Most people in this country are familiar with Stuttgart 21 primarily because of its enormous dimensions and the media coverage it has received. In the AEC industry, however, the name is also associated with a masterpiece of engineering.

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UNBOUND 

Köhlbrand Bridge

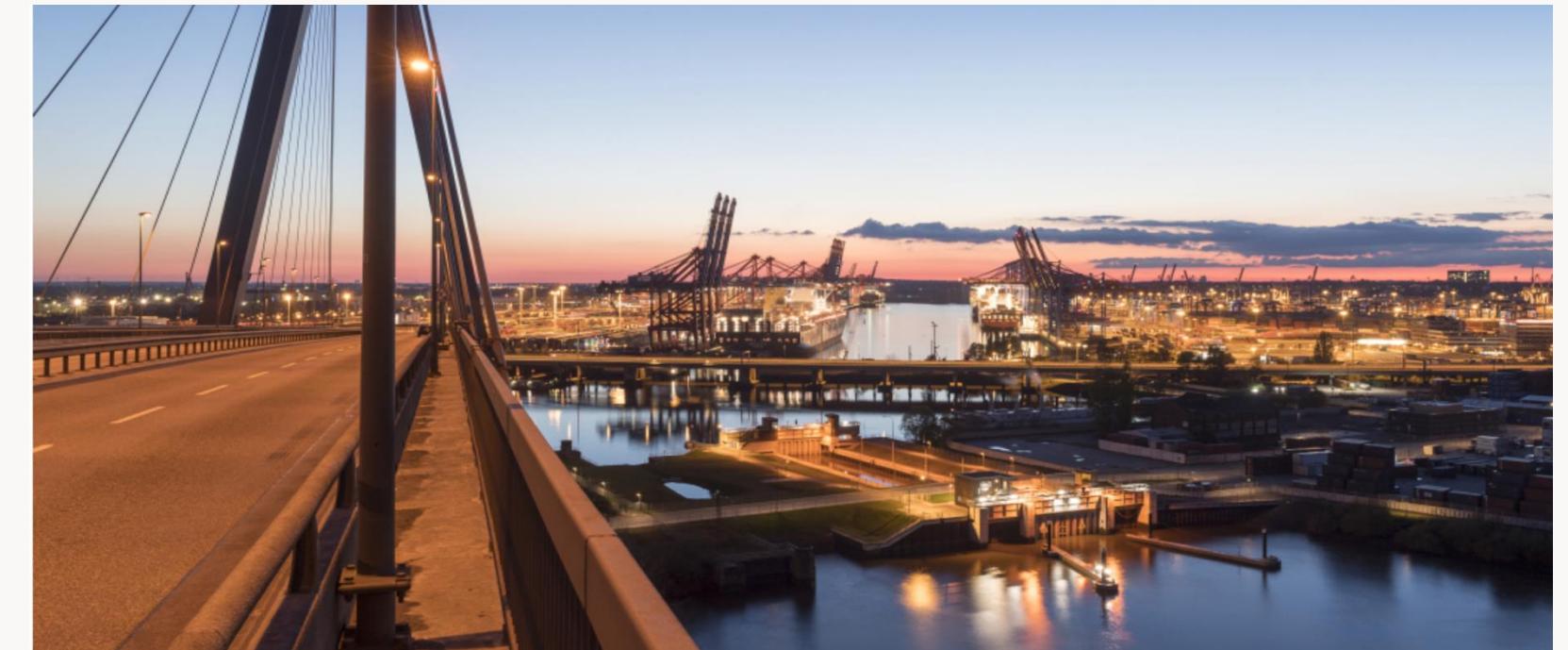
Hamburg Port Authority



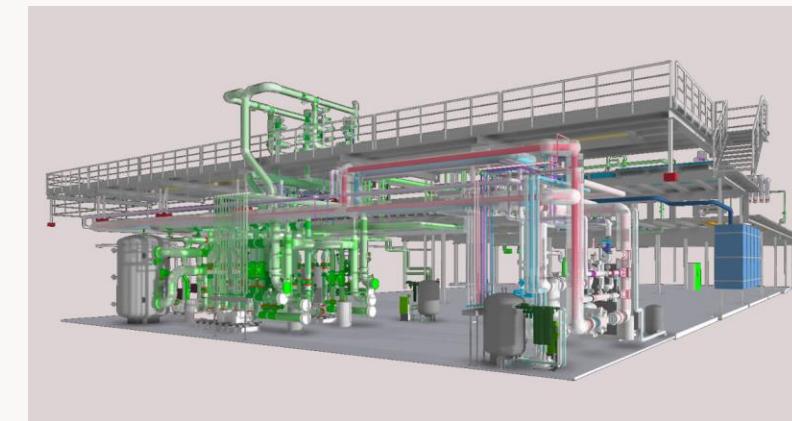
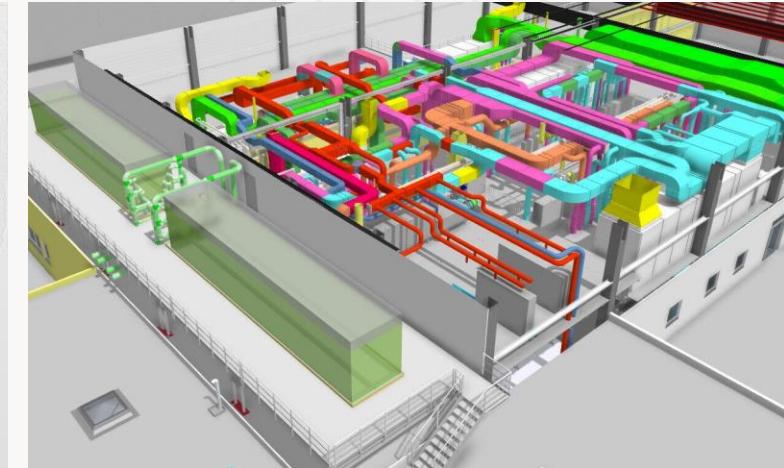
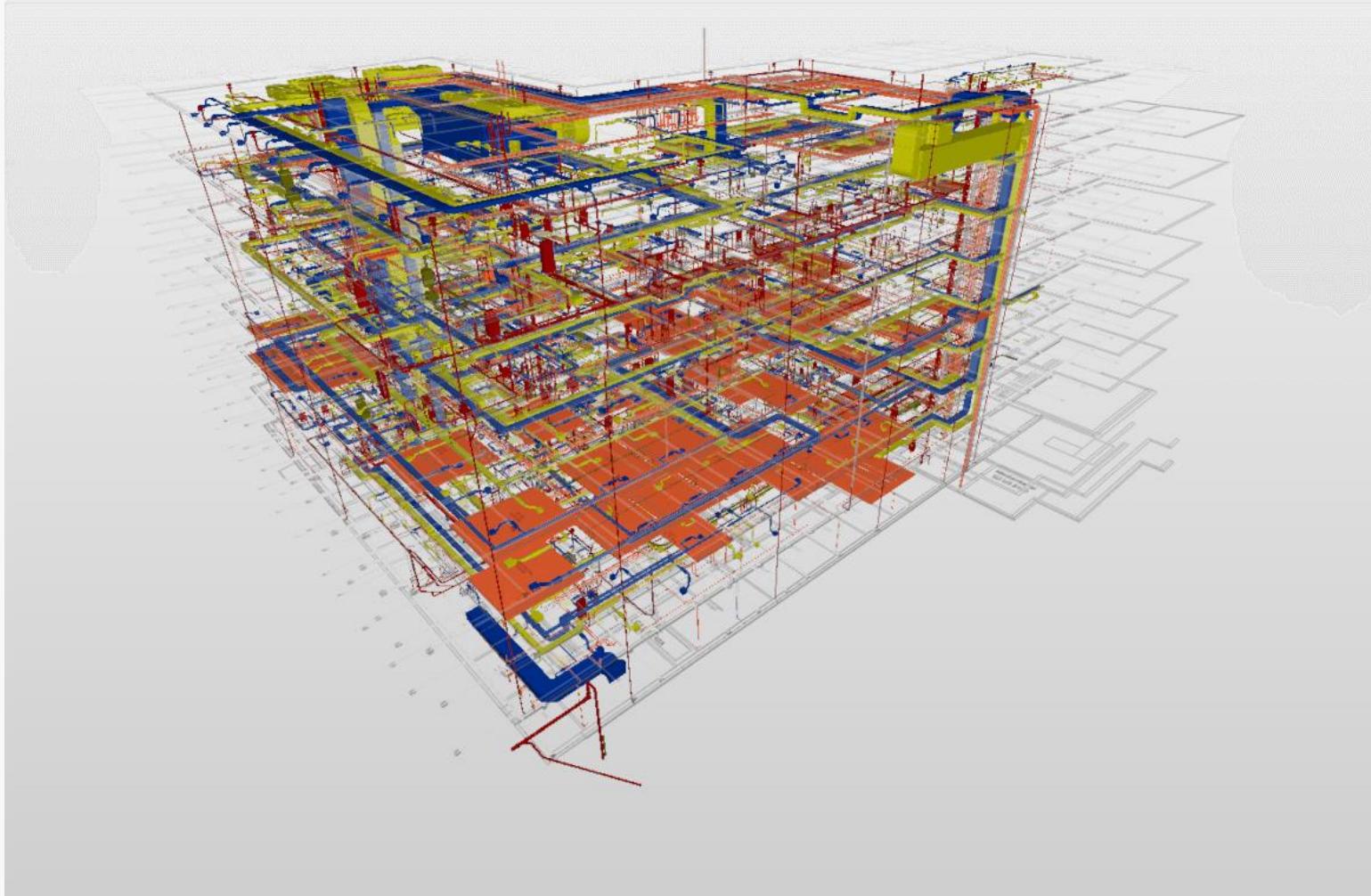
Built in 1974, the Köhlbrand Bridge is Germany's second-longest road bridge as well as one of its busiest. The cable-stayed bridge serves around 36,000 vehicles per day, thus playing a crucial role in the local economy.

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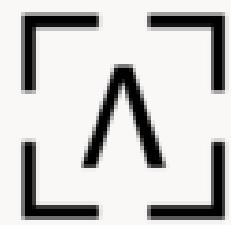
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BIMPLUS enabled many more projects ...



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[BIM2Field in infrastructure construction](#)
[How STÄBLEINARCHITEKTEN Closes the As-built Gap](#)
[BIM at the new Stuttgart Cancer Center](#)
[BIM at KIBAG - pilot project in special civil engineering](#)
[BIM and IPA at the new Thermoplan plant](#)
[How BIM Helped Build the New Lock Terneuzen](#)



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Thank you!

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